The Arts in Psychotherapy 62 (2019) 52–60

Contents lists available at ScienceDirect

The Arts in Psychotherapy

journal homepage: www.elsevier.com/locate/artspsycho

Research Article

Dance/movement therapy & warrior wellness: A pilot case study

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ARTICLE INFO

Keywords:
Dance/movement therapy
Military
Veterans
Mind-body
Wellness
Integrative health

ABSTRACT

Dance/movement therapy (DMT) is "the psychotherapeutic use of movement to further the emotional, cognitive, physical, and social integration of the individual" (American Dance Therapy Association, 2016), has been researched as a therapeutic intervention for various diagnoses and disorders, and exists in many healthcare settings across the United States. Despite its presence, dance is still widely misunderstood and undervalued as a therapy. The need for integrative mental health services has given rise to an interest in non-pharmacological approaches for treating various conditions, specifically within the veteran and military population. Arts-based methods in particular are being explored on the levels of practice, policy, and research in response to this need. This pilot case study is an analysis of an existing dance/movement therapy-based mind-body wellness program that is part of a larger integrative program for military service members with traumatic brain injury (TBI) and psychological health conditions. Data has been triangulated from patient surveys, clinical notes, the researcher-practitioner's embodied observations, and historical programmatic data. The results of the analysis indicate potential increase in mind-body awareness for patients as well as a possible shift in movement flow. Inconsistencies in organization/internal messaging suggest further exploration of the critical tenets of integrative medicine.

Dance is more than a performing art; it can be utilized as a form of healing (American Dance Therapy Association, 2016). Dance facilitates the integration of mind and body and when we dance, we are engaging in both physical and emotional processes (Berrol, 1992). Dance/movement therapy (DMT) is a clinical profession that has been utilizing these concepts for more than 70 years (American Dance Therapy Association, 2016). According to the American Dance Therapy Association (ADTA), DMT is "the psychotherapeutic use of movement to further the emotional, cognitive, physical, and social integration of the individual" (American Dance Therapy Association, 2016). Dance is both the means of assessment and intervention in DMT (American Dance Therapy Association, 2016). It requires a certain level of kinesthetic empathy, or what Todres called a "therapeutic mode of being with" (Todres, 2007).

DMT is practiced in a wide variety of health, wellness, and educational settings. It is applied on a spectrum of psychosocial and physiological diagnoses, and it is utilized with people of every age, race, and culture (American Dance Therapy Association, 2016). Dance/movement therapy is considered one of many mind-body practices as defined by the National Center for Complementary and Integrative Health (2016). Although the innate healing powers of dance may feel very natural to a dance/movement therapist, it has not always been so easily explained in the literature. Unlike other creative arts processes, such as visual art, which often produces a tangible 'product,' dance is ephemeral; once the act of dancing has occurred, it has already gone.

Dance/movement therapy has been researched as a therapeutic option for various diagnoses and disorders (Bräuninger, 2012b, 2012b; Koch, Kunz, Kolter, Lykou, & Cruz, 2013; Ritter & Low, 1996) and it is utilised in many healthcare settings across the United States. Despite its presence, dance carries a cultural stigma (Hanna, 2012) and is still widely misunderstood and undervalued as a therapy. Part of the challenge for DMT is the lack of evidence-based research. One of the reasons for the paucity of this kind of research is that dance processes can be difficult to measure quantitatively. Due to the transient nature of dance, qualitative and mixed-methods, such as case study, provide a more appropriate process to capture the subtle and nuanced complexities of this art form in action (Cruz & Berrol, 2012). Single-case design, as used in this study, differs from the more commonly known clinical case study, in that it can focus on an entire program (rather than a single person) and capture data from several points (Yin, 2014). However evidence-based research, specifically randomized controlled trials with control groups and use of standardized measurements, is considered the gold standard. This opinion is prevalent in healthcare. There are many existing DMT studies which are supported by robust qualitative and

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https://doi.org/10.1016/j.aip.2018.11.010
Received 14 June 2018; Received in revised form 23 November 2018; Accepted 30 November 2018
0197-4556/ Published by Elsevier Ltd.

mixed methods designs (Koch, Morlinghaus, & Fuchs, 2007; MacDonald, 2006; Tantia, 2012; Winters, 2008), which may be a more appropriate approach for studying dance/movement therapy. As the United States healthcare system searches for alternatives to costly treatment options, dance is becoming a more common approach to holistic wellness (Goodill, 2010). But as interest in dance as a viable form of therapeutic treatment increases, research on the therapeutic significance of dance, both quantitative and qualitative, must grow as well.

One population that is experiencing a growing need for integrative mental health treatment is military veterans. From 2005 to 2013, there was a 63% increase in the number of veterans who received mental health care from Veterans Affairs (VA; Department of Veterans Affairs, 2014). This is more than three times faster than the growth in numbers of VA users overall. However, there is still little evidence-based research to support the widespread implementation of complementary and integrative methods. The need for integrative mental health services is greater than what is currently available to veterans, military personnel, and their families.

Integrative and complementary services may include a range of established mind-body practices (National Center for Complementary and Integrative Health, 2017), such as yoga, relaxation techniques, meditation, and movement therapies. As a dance/movement therapist, yoga instructor, and mind-body medicine doctoral candidate, I am a provider of complementary and integrative health services. I have been providing these services to veterans and military members for several years in various veteran and military medical facilities. Having this first-hand perspective of the nuanced delivery of this unique clinical treatment provides a valuable asset to the research process in this particular case study. Currently, I am the wellness coordinator in an integrative traumatic brain injury (TBI) treatment program for active duty service members. To be accepted into this particular program, service members have to have had a head injury at some point in their military career, but are not currently experiencing acute symptomology. Most of the patients are additionally challenged with comorbidities such as depression, post-traumatic stress disorder (PTSD), anxiety, sleep disorders, and pain. The patients live in housing provided as part of entry into the program and are all independently functional. Many of the patients' families join in the last week of the program to participate in the range of therapies that are offered, including mind-body practices. When I started in this position, I was tasked with creating and implementing a mind-body program to be integrated into the existing four-week TBI program. The intention was to assist service members in building self-care skills (See Appendix A). It is this DMT-based wellness program for military members with TBI that I examined for the purposes of this pilot case study. I am in a unique position as a dance/movement therapist working with a military population to be able to provide some insight into the existing gap in the literature.

Literature review

The need for integrative mental health services has given rise to an interest in non-pharmacological approaches for treating conditions commonly experienced by veterans and military personnel (Goertz et al., 2013; National Center for Complementary and Integrative Health, 2017; Phillips & Wang, 2014; Samueli Institute, 2013). Arts-based methods in particular are being explored on the levels of practice, policy, and research in response to the increasing need for effective mental health treatment, which has been evidenced by national summits on arts in healthcare across the military continuum, as well as a resulting white paper (Americans for the Arts, 2013). Movement-based modalities, such as yoga, have gained popularity among veterans and military personnel, with many veterans declaring effects like relaxation, relief of physical pain, and increased cognitive functioning (Jacobsen et al., 2009; Phillips & Wang, 2014). There is preliminary evidence that some mind-body approaches have shown positive results for symptoms of PTSD, stress/anxiety, insomnia, and chronic pain within the military population (National Center for Complementary and Integrative Health, 2017). However, DMT, as a therapeutic movement discipline, has not been specifically researched in detail with this population. Currently, there is one published research article on DMT with veterans, a qualitative narrative about a Vietnam veteran's experience (Gordon-Cohen, 1987).

The key considerations for research in the creative arts therapies with veterans and military personnel are: 1) limited funding is available for arts and health research; 2) study sizes tend to be small or underpowered in clinical trials; 3) disciplines and stakeholders involved in research often work independently; 4) few studies have explored the impact of arts and creative arts therapies on healthcare savings and economics; 5) little research has focused on the preventative nature of the arts during pre-deployment and deployment; 6) limited research has been conducted on the benefits of the arts for military families and children (Americans for the Arts, 2013). It is also recommended that for the most robust research agenda, both quantitative and qualitative research must be conducted. Quantitative evidence is critical; however, anecdotes and stories resulting from the arts process may be helpful in capturing the attention of decision makers and moving the military arts and health initiative forward (Americans for the Arts, 2013).

Qualitative research may also help identify components that could serve as important variables in future research. Dance/movement therapy is referenced in the white paper as one of the creative arts therapy disciplines, but there are no clear examples of DMT offered as it relates to the military experience. There is pervasive discussion of a need for evidence-based research within Veterans Affairs (VA) and military medicine; concurrently, there is also a push for the veteran's preferences being met in their own healthcare (Crawford et al., 2015; Schumm, Walter, Bartone, & Chard, 2015).

Methodology

Based on the existing literature and the recommendations outlined in the white paper, this study is a retrospective mixed methods single, holistic case study of a dance/movement therapy (DMT) based wellness program that is part of an integrative traumatic brain injury (TBI) and psychological health program for military service members. The purpose of this case study is to explore the healing aspects of dance and movement with the military and veteran population. In order to do this, case study design was utilized to capture the process of the program and to collect and analyze multiple sources of mixed methods data (Yin, 2014). Specifically, there is interest in understanding the veteran's experience of DMT and to gain deeper insight into how DMT may be therapeutically effective with this population. As a holistic approach to healthcare, DMT provides an exceptional foundation for case study design. Holistic case study design is meant to not only look at the organization in which the program occurs, but at the relationship with other organizations (Yin, 2014). Programmatically, the DMT approach fosters the patient's relationship between mind and body. Through the therapeutic process, a patient might gain insight into the relationship between her/his internal and external experiences. From a holistic case study perspective, the patients and people in their lives can be viewed as organizations in relationship with one another.

Data collection and analysis

Laban's framework of movement analysis was utilized as a foundation for both categorizing and analyzing the data. Qualitative data were collected and analyzed from self-report surveys, clinician's notes, and observations by the researcher-practitioner. Quantitative data from the self-reported rating scales administered during the wellness evaluation and follow-up were also analyzed. It was anticipated that practicing mind-body skills would stimulate self-awareness and lead to greater self-efficacy with mind-body practices and improved

psychophysiological symptomology. Comparing the results of participants' self-reports, clinical observations, and self-rating scale results was meant to elucidate the relationship between the practice of mind-body skills in a DMT based wellness program with psychophysiological symptomology in military service members suffering from traumatic brain injury.

Qualitative data had been gathered from hand-written, self-report surveys administered to patients during Weeks 1 and 3 of the wellness program. Each survey included open-ended questions and rating scales about their current mind-body wellness experience, including their wellness definition, goals, and needs, as well as self-ratings of mind-body awareness and confidence with mind-body practices. For the analysis, both qualitative and quantitative data of the self-reports from Week 1 to Week 3 were compared. The patients' hand-written responses were analyzed for themes. Clinical notes written by the treating therapist during the interviews were analyzed for themes as well. An additional embodied analysis was done of both the patients' survey responses and the clinician's notes. This level of analysis required me, as the researcher, to notice and track physical sensations throughout the data analysis process. Supporting data from the larger treatment program was triangulated with the data from the wellness surveys and clinical notes, including a patient satisfaction survey summary (administered during exit interview), standard operating procedures (SOP), program mission/vision, annual report, and messaging content (i.e., website content, publications, social media content).

Retrospective data from semi-structured interviews with each participant were analyzed. These interviews were part of the process of the program being studied and were not conducted as a requirement of the current study. For the purposes of this study, sensory questions (Hays & Singh, 2011) such as "Where do you feel that experience in your body?" were utilized to help illuminate the mind-body experience of the participant. Probing questions (Hays & Singh, 2011) such as, "If you were to visualize your future wellness, what might it look like?" have also been used to gain more detail of the participant's experience. The questions asked during interviews varied depending on the individual participant, but responses to these types of questions were found in the clinician's notes.

There are few fixed formulas for qualitative analysis of case study data (Yin, 2014). For the type of analysis used in this study, the process depends more on the researcher's personal analytic style. A matrix of categories was created to identify patterns and shifts in the data in the self-report surveys, clinician notes, and observed movement behavior/body language over the course of the 4-week program (Yin, 2014). Patient responses from the self-report surveys were analyzed to identify themes and categories, and then the categories were utilized to further organize other data sources (i.e. interviews, program descriptions, movement behavior). Several matrices were created to help organize and analyze the data. These checklists were helpful in identifying how to categorize the data within movement terms (See Appendixes D–G). Additionally, a list of questions to help guide the analysis process was generated (Saldaña, 2013) (See Appendix B), such as "How am I deciding to place patient responses in movement categories?", and "How does the patient's response feel in my own body?" Utilizing this dual strategy of using guiding questions during the process of coding the data has allowed for triangulation from multiple sources and holistic examination of the data.

In the dual role of clinician and researcher, it is particularly important in the study design to recognize the effect that personal bias has on the research process (Hay-Smith, Brown, Anderson, & Treharne, 2016). Throughout the design, data collection, and analysis phases of this study, I was consistently aware that as a dance/movement therapist, I was invested in the treatment modality that was being studied. As both researcher and facilitator of the interventions, it was challenging to maintain neutrality as I analyzed the data. Being clear about my involvement in the research from the beginning was important for maintaining the integrity of the study. As the main clinician in the program that I analyzed, it was helpful to recognize and accept my role as a participant in the process of working toward a deeper understanding of the program and recognizing places for potential problem solving.

A benefit of having been intimately involved in the process of building the wellness program was that it allowed me the opportunity to observe details that an outside observer or a quantitative measure might have missed. The unstructured nature of this kind of analysis also permitted room to shape the process more creatively and to better suit the kind of data being collected. Additionally, my background knowledge served to inform me about what data might be missing. For example, upon initial analysis of the themes of the patient survey responses, my skills and intuition as a dance/movement therapist led me to re-analyze the data from an embodied perspective. The details that emerged during this particular case study were what helped me to make a thorough analysis. Yet, it still remained a challenge to balance that perspective with my ability to effectively analyze the data and to identify patterns. Being mindful of my bias throughout the process only helped to keep my perspective balanced and honest.

I was especially focused on capturing sensory impressions and routines (Bentz & Shapiro, 1998; Hays & Singh, 2011; Janesick, 2016) as they were helpful in informing my understanding of the participants' sensory experience of the wellness program. I used Laban's theoretical framework as a way to focus my observations, as his theory is a foundation of dance/movement therapy (Bartenieff & Lewis, 1980). Laban described movement as happening in planes (door, table, wheel), dimensions (vertical, lateral/horizontal, sagittal), and efforts (weight, space, time, flow) (Bartenieff & Lewis, 1980). I used these concepts as a lens to identify movement behaviors and patterns, helping me to gain deeper insight into the participants' personal sensory experience. Checklist matrices were created to track the data in relation to Laban's efforts (See Appendix C), movement planes (See Appendix D), and movement dimensions (See Appendix E).

A theoretical proposition, such as Laban's, can serve as the foundation for a case study, but it can also serve as a strategy for analyzing data (Yin, 2014). Laban's theory (Bartenieff & Lewis, 1980) has provided a helpful framework for analyzing the "movement" of the DMT mind-body program. The program was designed to first stimulate awareness of the mind-body connection, then build mind-body skills through practice, and develop confidence to continue engaging in mind-body practices for ongoing self-care. Laban's framework was meant as a tool to analyze movement behaviors and patterns, to gain a deeper understanding of the meaning underlying the movement. The concept of planes, dimensions, and efforts has provided a helpful framework not only for understanding the movement of individuals, but of groups and systems as well. In general, the planes of movement can be considered spaces for reflection, transformation, and action to take place (Bartenieff & Lewis, 1980). The door plane contains predominantly vertical movement and some horizontal motion with stability and assertiveness being the dominant behavioral characteristics. The table plane is comprised of mostly horizontal movement and some sagittal motion with including and sharing being the prevailing characteristics. In the wheel plane, the principal movement is sagittal with some vertical motion, while reaching-toward and withdrawing are the behaviors exhibited. Laban's framework has been particularly useful in the data coding process. Efforts, planes, and dimensions were used as categories to organize the data. The Laban framework provided a lens to both categorize and analyze the data, capturing the nature of the case through movement and intention (See Appendixes D–F). It provided deeper insight into body awareness shifts as they occurred in the dance/movement therapy process.

Results

A range of qualitative and quantitative data were triangulated in this case study analysis, covering a spectrum of both patient and

researcher-provider experience, as well as inclusion of descriptive materials from the host program. Included in the final analysis were patient surveys (open-ended questions and self-rating scales), clinical notes, the researcher-practitioner's observations and embodied response, and supporting data from the larger TBI program (SOP, mission/vision, annual report, and patient satisfaction survey). Each piece of data helped to paint the picture of how this mind-body wellness program is integrated into the TBI program. Findings from this analysis indicate that inconsistencies in the internal and external messaging of both the TBI program and the mind-body program embedded within it provide an opportunity for program development.

Patient surveys

As part of the TBI program, patients participated in 12 mind-body groups and two individual sessions. In both of these individual sessions, the wellness evaluation and follow-up, patients were administered self-report surveys that included open-ended questions and self-report scales (See Appendixes B and C). The open-ended questions revealed some specific themes from the patient mind-body experience during the analysis phase of this study. The written survey responses (n = 8) were examined for common themes. Several words and phrases were repeated within and across the responses, with the most common themes being: awareness, relaxation, balance, control, and mind-body. The survey responses were read and re-read by the researcher and repeated words/phrases were identified (See Appendix F). The patient responses were read again along with the clinician's notes, with the lens of an embodied/felt sense. Words and phrases were recorded by the researcher in response to the patients' and clinicians' written responses. The result was a matrix of specific and descriptive language that mirrored the identified themes (Appendix F).

Self-report scales were also included in the surveys, asking patients to identify self-perceived levels of mind-body awareness and confidence with mind-body skills on a scale of 1–10, with 10 being the most aware/confident and 1 being the least aware/confident. The responses for 8 participants were inputted into an Excel spreadsheet and mean scores were calculated for Weeks 1 and 3. An average increase of 1.5 was found from Week 1 to Week 3 in mind-body awareness, with an increase of 1.75 in self-reported confidence with mind-body practices. Due to the small sample size, significance could not be determined (See Appendix G). No other calculations or statistical analysis were performed.

Upon further review and comparison of the themes and embodied responses, it became evident that a shift occurred for the patients between Weeks 1 and 3. When looking at just the themes (See Appendix H), derived from words/phrases written by the patients in their surveys, for 50% of the participants, there was no change. For the other half that exhibited a change in theme, there was no clear indication what kind of shift occurred. However, when looking at the embodied responses (See Appendix H), there was a clear shift for at least 75% of the patients from a place of being "stuck" or in "non-movement" to "openness" or "movement." To use Laban's framework, the patients appeared to move from bound flow to free flow (Bartenieff & Lewis, 1980). To recall, the self-report scales showed an increase in mind-body awareness as well as confidence with mind-body practices. The finding of the difference between the two assessments of the same data indicates that an embodied analysis might provide a more nuanced interpretation as opposed to a more objective, surface observation of the data. Perhaps taking time for deeper reflection and utilizing the bodily felt sense as a research tool can elucidate shifts in mind-body experience. As proposed by Janesick (2016), "You are the research instrument" (p. 1).

The themes captured in the patient surveys provide a window into the patient experience in the context of an integrative treatment program and the sequence of mind-body skills that the patients were receiving. Having a sense of what the patients were feeling and thinking about is useful information for future program changes or even replication of the program at other military treatment facilities. For example, it might be helpful to bring more attention to the concept of relaxation by implementing more education around the topic, as well as increased opportunity for practicing relaxation techniques. Knowing that the concepts of awareness, relaxation, balance, control, and mind-body are of importance to this particular sample of patients, at the minimum, provides points for future exploration.

Researcher-practitioner's observations and embodied response

The wellness program being studied is based on underlying dance/movement therapy theory, which means it "is focused on movement behavior as it emerges in the therapeutic relationship," acknowledges that "expressive, communicative, and adaptive behaviors are all considered in the process of treatment," and recognizes that "body movement, as the core component of dance, provides both the means of assessment and the mode of intervention" (American Dance Therapy Association, 2016). As both practitioner and researcher, I considered the concepts of movement expression, communication, and adaptation with each participant and across the wellness program as a whole. In this way, the data analysis was driven by dance/movement therapy theory, and also provided a foundational frame to report findings and interpret the data.

In applying Laban's framework to the program in question, I observed the door plane as a place of finding one's sense of self and inner strength, which was the beginning part of the process for those who just entered the program. I saw the table plane as a place of exploration. Once participants had grounded themselves in the door plane, they started to reach beyond themselves, into the table plane, and began to practice some of what they had been learning, strengthening their mind-body skills. Toward the end of the program, when participants were preparing to put their skills into action, they were moving into the wheel plane. The planes of movement provided useful benchmarks to reference when analyzing participants' development through the program. When a participant expressed language on his self-report survey during Week 3 of treatment that was reflective of the table plane ("… meditation, you can do it anywhere."), it was an indication that his mind-body skills had developed from Week 1, when his language was more reflective of the door plane ("[wellness is] feeling happy within yourself."). Alternatively, if a participant who is at the beginning phase of the program exhibits wheel plane behavior, such as proactively engaging in a self-guided practice during free time, it could indicate that there are already some foundational mind-body skills in place. For example, I have observed that patients often begin treatment moving predominantly in the vertical plan with bound flow. Further into treatment, I have seen a shift into horizontal and sagittal space with more free flow.

Historical data

A number of historical documents were reviewed and analyzed as a means of understanding the role of the mind-body program within the context of the larger TBI program. The program's annual report (The National Intrepid Center of Excellence, 2016) was examined, and it was found that there was very little mention of mind-body programming. It should be noted that the mind-body program in question was implemented in January of 2016, however there was no indication of this process in that year's report. Based on information that the researcher observed with staff members who had been employed before the implementation of the mind-body program, it was clear that there were a few mind-body groups/sessions being offered, but there was not a comprehensive program dedicated to sequentially building mind-body skill. During one observation, it was expressed that there indeed was "a mind-body program" prior to the implementation of the current one. The expression of this belief indicated that perhaps there was not an overall understanding among the staff of the sequential, skill building nature of the current program. The lack of recognition of the mind-body

program in the annual report supported this supposition.

The patients enrolled in the 4-week program have the opportunity to complete a satisfaction survey during Week 4 before exiting the program. A summary report of surveys over an 18-month period (post implementation of wellness program) raised some questions about definitional terms and how the mind-body program is messaged to patients. One of the metrics identified in the report was the most and least helpful "techniques, tools, or topics" from the entire TBI program. The report showed that "mediation" was the third most helpful after "Introduction to TBI" and "sleep interventions." Although this was clearly a misspelling of the word meditation (mediation was not something offered in this program), it suggested that the mistake had gone unnoticed in the summary report. It might have also indicated a more general lack of awareness or knowledge about this particular program offering. The 4th most helpful was the mind-body technique biofeedback, however, biofeedback was also listed as the 4th least helpful. This finding suggested that the definitional terms of the various mind-body practices might be unclear to patients. Lastly, yoga/Tai Chi was listed as the 5th least helpful. This also could have created confusion for the patients as Tai Chi was not offered in the current mind-body program. Yoga, however, was an offering. Putting the two movement practices together in the same category forced a contradictory choice in the patients' responses. All of these findings point to some miscommunications about the mind-body program across the larger TBI program among both patients and staff, which provided an opportunity to develop and strengthen the existing program.

As both the researcher and the primary practitioner for this mind-body program, I was intimately knowledgeable about the standard operating procedures (SOP) for the mind-body program. To my knowledge, it was current and accurate. However, it became unclear at the time of analysis if it had ultimately been officially approved for dissemination and reference within the larger program. In discussion with staff members, it became evident that SOP's for other programs were in various stages of approval. This indicated that there was a varying standard of operation for the several disciplines that made up this integrative program. This finding supported the theory that both the understanding and messaging of the mind-body program has been inconsistent.

The mission, vision, and guiding principles of the larger TBI program were stated as follows (The National Intrepid Center of Excellnece, 2017): Mission: We improve the lives of patients and families impacted by TBI through excellence and innovation; Vision: To be a global leader in TBI care, research, and education; Guiding Principles: We are guided by the principles of excellence, innovation, compassion, honor, and collaboration. These statements suggested a high level of care and pride in the program. Although discrepancies were apparent in regard to the specific components of the program, discussions with staff and observations of the milieu made it clear that these feelings were present among members of this program. The instances of inconsistencies in messaging content and procedures have provided an opportunity for program development to ultimately support and strengthen the vision and mission of the program.

Discussion

The original intention of this pilot study was to identify the components of a DMT mind-body wellness program that had been integrated into a TBI treatment program for military service members. The primary framework proposed for analysis of the data was Laban's theory of movement, with the anticipation of utilizing movement efforts, dimension, and planes to capture and make sense of the data. What was discovered once the data were collected, was that they did not fit organically into these categories. It raised the question as to whether the appropriate framework was being utilized or, perhaps, if the research question was the correct one. Guiding questions (See Appendix B) and movement checklists (See Appendices D–G) were created in an attempt to categorize and understand what the data were saying. It became clear that the process of creating these tools was helpful in organizing the researcher's internal framework, but was not as helpful for organizing the data. After analysis of all the data, the question became whether the mind-body program was functioning as effectively as it could be within the larger TBI program. The movement elements were embedded into the program curriculum, but if there were inconsistencies in regard to the understanding of the purpose of the program among both staff and patients, then perhaps a more appropriate question would be whether the components of this program could be developed or utilized differently to support an even stronger integrative program.

To return to the National Center for Complementary and Integrative Health's definitions (National Center for Complementary and Integrative Health, 2017), it has been stated that an integrative program is patient-centered, a collaboration of complementary disciplines, and addresses the whole patient – mind, body, and spirit (Horrigan, Lewis, Abrams, & Pechura, 2012). There was some evidence in this pilot study of increased awareness and confidence across the patients, however there was also evidence of confusion among patients and staff as to the purpose and meaning of mind-body approaches and the integrative approach as a whole. Perhaps whether the larger program possesses the required components of an integrative program needs to be explored. Specifically, is the program 1) patient-centered, 2) interdisciplinary, and 3) holistic? This process may be necessary before identifying more nuanced components like movement efforts, dimensions, and planes. In future research, it may be more appropriate to utilize the framework of the integrative model, at least as an initial analysis, before delving into any deeper analysis. If the surveys, historical data, and researcher observations do not contain the core components of an integrative program, then it may be an indication that other steps need to be taken to ensure integration before being able to identify critical movement elements. It would be important to confirm the presence of the essential elements of an integrative program before attempting to replicate the mind-body program at other military treatment facilities.

The results of this pilot study are significant for identifying future steps in this research. The primary conclusion is that the mind-body program being studied is an integral part of the larger TBI program. As such, it could not function independently, and perhaps should be studied from a broader lens than the initially identified micro perspective. If the other disciplines of the TBI program did not exist, the mind-body program most likely would not be able to function independently. Furthermore, if the key elements of an integrative program are not consistent, then the component program may not function efficiently either. It is therefore important to have the key components of integrative health (patient-centered, holistic, and interdisciplinary) function across all levels of a program. As evidenced in this pilot study, inaccuracies in messaging can cause confusion and disconnect for patients and staff, which ultimately affect the functioning of the program, from the micro level all the way up to the macro level.

There are important limitations of this pilot study. In regard to survey data, it was clear that there was some kind of shift in the patient experience, evidenced in the analysis of both the open-ended questions and the self-report surveys. It would be beneficial to analyze both the qualitative and quantitative data with a larger sample size. Analysis of a larger cross-section of the qualitative responses may help to elucidate trends in the data and possibly offer deeper insight into the nuances of patients' development, as well as whether there is actually a shift from bound to free flow, or the possibility that there may be other movement trends. A larger sample size would also provide an opportunity to reach statistical significance in analysis of the self-report surveys.

Laban's theory of movement analysis was utilized as the foundational framework for the study and will continue to be used as such. Going forward, the framework may not be as integral to the analysis phase as previously determined. A framework that captures the

components of the larger integrative program will be necessary to understand how the program works as a system, as opposed to separating it into its parts and examining it mechanistically. It may be more appropriate to assess the entire program through the lens of integrative medicine, checking for the key components of patient-centeredness, a holistic approach, and interdisciplinary care. Results from this macro level analysis may elucidate points for potential development in the program (Horrigan et al., 2012).

Lastly, it must be recognized that as a researcher-practitioner, I can never fully separate myself objectively from the inner workings of this program. I am in the unique position of being the creator of the program in question as well as the main practitioner. As the researcher I am analyzing not only the program, but myself as an integral part of the program. Conversely, the DMT-based mind-body wellness program in a military treatment facility is unusual and warrants case analysis (Yin, 2014). These dual roles may not be ideal from a research perspective, but they allow me to have a much more intimate understanding of the nuances of the program. Awareness of these dual roles must remain consistent for the continued integrity of the research.

Conclusion

The key components of an integrative program, such as patient-centeredness, interdisciplinary treatment, and holistic care, are necessary for all parts of the system to function properly. Addressing messaging inconsistencies can foster better communication among patients and staff, as well as strengthening the functioning and development of a program. This case study is an example of an integrative treatment program that has many strengths. One finding was an apparent development of mind-body awareness and confidence with mind-body skills for patients in the program. This is a place for potential further research as having a deeper understanding of what is happening for patients throughout the process of the program could offer points of program development.

However, before exploring the patient process further, it will be necessary to identify whether the key components of an integrative program are solidly in place. As has been identified in this case study, understanding and communicating key terms and sharing in consistent practices are necessary for the overall functioning of the program. It is with a lens on both the micro movements of the members and the macro movement of the system that a full understanding of the critical elements of a successful integrative program may be gained.

Acknowledgements

I would like to thank Dr. Luann Fortune of Saybrook University for all her guidance as my dissertation committee chair and methodologist. She has supported me since the beginning of my doctoral journey and continues to cheer me on. I would also like to thank the many staff at the National Intrepid Center of Excellence and Walter Reed National Military Medical Center who helped me in completing this pilot study in some way; there are many of you. I am grateful to have such accommodating and professional colleagues. Lastly, I would like to thank my family, Doug, Charlie, and Lily for being so incredibly patient and supportive through this process. I cannot do it without you.

Appendix A. Wellness Groups in Sequence Order

Week 1:
Introduction to Wellness

- Wellness discussion.
- Labyrinth walk (walking meditation).
- Kosha meditation.
- Provide journal.

Biofeedback: EmWave Introduction

- Discussion of biofeedback, ANS, breathing.
- Discussion of phone apps, breath pacers, meditation reminders/timers, etc.
- EmWave distribution.
- Breathing didactic – belly/diaphragmatic breathing, postural shifts, PMR, walking.
- EmWave practice.

Movement & Meditation

- Shaking and Dancing/Moving, Authentic Movement – awareness of impulse to move
- Body Scan
- Fill in body outline – identify places of tension, discovery, etc.

Week 2:
Breath, Body, Mind 1
Breath: Simple breath awareness, Diaphragmatic/Belly Breathing, Count equal part inhale/exhale (4–6 in, 4–6 out)
Body: Standing Postures - Mountain Pose, Chair, Tree, Warrior 1, Warrior 2, Triangle
Mind: Mindfulness of physical sensations, breathing and relaxation/wellbeing
Physiology of Wellness
Review of the relationship between the autonomic nervous system, stress, and breath.
Movement Studio

- Structured Movement – Yoga/Sun Salutation, focus on transitions (alignment, breath, muscle engagement/release)
- Group sequencing exercise – create your own routine.

Week 3:

Breath, Body, Mind 2
Breath: simple breath awareness, diaphragmatic breathing, count equal part inhale/exhale (4–6 in, 4–6 out), extend the exhale (4–6 in, 6–8 out)
Body: Forward Bends and Backbends - Table/Cow/Cat Flow, Downward Dog, Childs Pose with Bolster, Cobra Pose, Sphinx Pose
Mind: Mindfulness of physical sensations, breathing, emotions and relaxation/wellbeing
Breath, Body, Mind 3
Breath: Simple breath awareness, Diaphragmatic Breathing, Conqueror's/Ujayi Breath
Body: Seated Poses - Head to Knee Pose with Strap, Seated Twist, Pigeon or Modified Pigeon, Butterfly
Mind: Mindfulness of physical sensations, breathing, emotions, thoughts and relaxation/wellbeing
Wellness Planning

- Guided Meditation – Visualing future M-B practice; Embodying wellness goal
- Wellness Planning Worksheet
- M-B Routine Practice

Week 4:
Mindful Eating

- Grounding meditation, tuning in to all 5 senses.
- Discussion about physical and emotional hunger.
- Mindful eating exercise with choice of chocolate or fruit.
- Sharing experiences and lessons learned.

Breath, Body, Mind 4
Breath: Simple breath awareness, Diaphragmatic Breathing, Channel Cleaning Breath/Nadi Shodhana
Body: Reclining Poses - Reclining Leg Stretch with Strap, Reclining Twist, Thread the Needle
Bridge
Mind: Mindfulness of physical sensations, breathing, emotions, thoughts and relaxation/wellbeing
Creative Arts Storytelling

- Labyrinth walk, starting from center and exiting out of the labyrinth. Being mindful of this walk compared to the first walk in the Introduction to Wellness group.
- Guided meditation focused on visualizing energy of wellness wisdom gained growing and spreading throughout body and beyond body into kinesphere/personal space. Option to send energy out to loved one or someone in need. Reminder that this energy is always with you and always accessible.
- Live meditative music being played (harp, HAPI drum, singing bowl, etc.). Option to join in and play at close of meditation.
- Creation of group poem – personal "take-aways," words of wisdom to leave behind for future program participants.

Appendix B. Wellness Program Research Questions for Categorizing Data

1 How am I deciding to place patient responses into movement plane categories?
2 What are the words/phrases that indicate appropriate placement in door, table, or wheel plane?
3 Does the patient's response lack movement plane descriptors (no efforts present)?
4 What does the patient's response make me feel in my own body?
5 Is there any evidence of movement plane activity in the clinician's notes?

Appendix C. Wellness Program Effort Checklist

Identify which efforts were present (if any) in:

- Self-report wellness survey Weeks 1 and Weeks 3
- Clinical notes Weeks 1 and 3
- Patient satisfaction survey Week 4 (completed during treatment exit interview)

Effort	Self-Report Survey (Week 1)	Clinical Note (Week 1)	Self-Report Survey (Week 3)	Clinical Note (Week 3)	Patient Satisfaction Survey (Week 4)
Light (Weight)					
Strong (Weight)					
Direct (Space)					
Indirect (Space)					
Sudden (Time)					
Sustained (Time)					
Bound (Flow)					
Free (Flow)					

Appendix D. Wellness Program Movement Plane Checklist

Identify which plane of movement best categorizes the data (door, table, wheel):

- Self-report wellness survey Weeks 1 and Weeks 3
- Clinical notes Weeks 1 and 3
- Patient satisfaction survey (Week 4)

D = Door; T = Table; W = Wheel

Data Source	Self-Report Survey (Week 1)	Clinical Note (Week 1)	Self-Report Survey (Week 3)	Clinical Note (Week 3)	Patient Satisfaction Survey (Week 4)
Definition of Wellness					
Wellness Goals					
Obstacles/Challenges					
Meaningful Take-Aways					

Appendix E. Wellness Program Movement Dimension Checklist

Participant	Vertical stability⟵⟶assertiveness sinking⟵⟶rising	Horizontal including⟵⟶sharing gathering⟵⟶scatter	Sagittal withdrawing⟵⟶reaching toward retreating⟵⟶advancing
1			
2			
3			
4			
5			
6			
7			
8			

Place survey responses in the corresponding categories. Identify if evaluation, follow up, or patient satisfaction survey and question #.

Appendix F. Themes in Patient Responses

Participant #	Theme - Week 1	Theme - Week 3
1	motivation	motivation
2	skepticism	mind-body
3	anxiety/pain	aware
4	alert (hyper)	balance
5	relaxation	relaxation
6	stability	strengthen
7	control	control
8	relaxation/frustration	relaxation/frustration

Researcher's Embodied Response

Participant #	Response to Patient - Week 1	Response to Clinician - Week 1	Response to Patient - Week 3	Response to Clinician - Week 3
1	stuck	no motivation, resistance	knowledge, perspective, enlightenment	embrace, patience, OK with what is
2	mind/mental/head, not in the body	need to normalize experience, disconnected	control	insulated, inward, re-framing
3	no sense of control, stuck, unable to move	desperation, pain	lightness, opening, relief	relax
4	control	relaxation < > alertness	balance, mind-body, breathing	control - "mind over body"
5	"unwanted thoughts", physical barriers to interests (walk, workout), "help"	barrier to relaxation	depth, deeper, relaxation, inspiring	breathing, relaxed
6	stability (resiliency)	agitation	strength	has a plan
7	angry, depressed, agitated, wants to be calm/relaxed	anger, depression, few words	breathing, sleep, meditation, biofeedback, much more expressive	discussed options, more words, opening
8	frustration, relaxation, continued high level performance	running…	I learned how to breathe…	Walked the labyrinth…

Appendix G. Self-Report Scale Responses

Participant Number	Mind-Body Awareness Eval	Mind-Body Skill Confidence Eval	Mind-Body Awareness F/U	Mind-Body Skill Confidence F/U
1	4	2	4	8
2	8	5	5	4
3	1	1	4	4
4	8	8	9	7
5	3	X	7	X
6	3	X	6	X
7	2	X	4	X
8	6	X	8	X
Mean Score	4.375	4	5.875	5.75

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